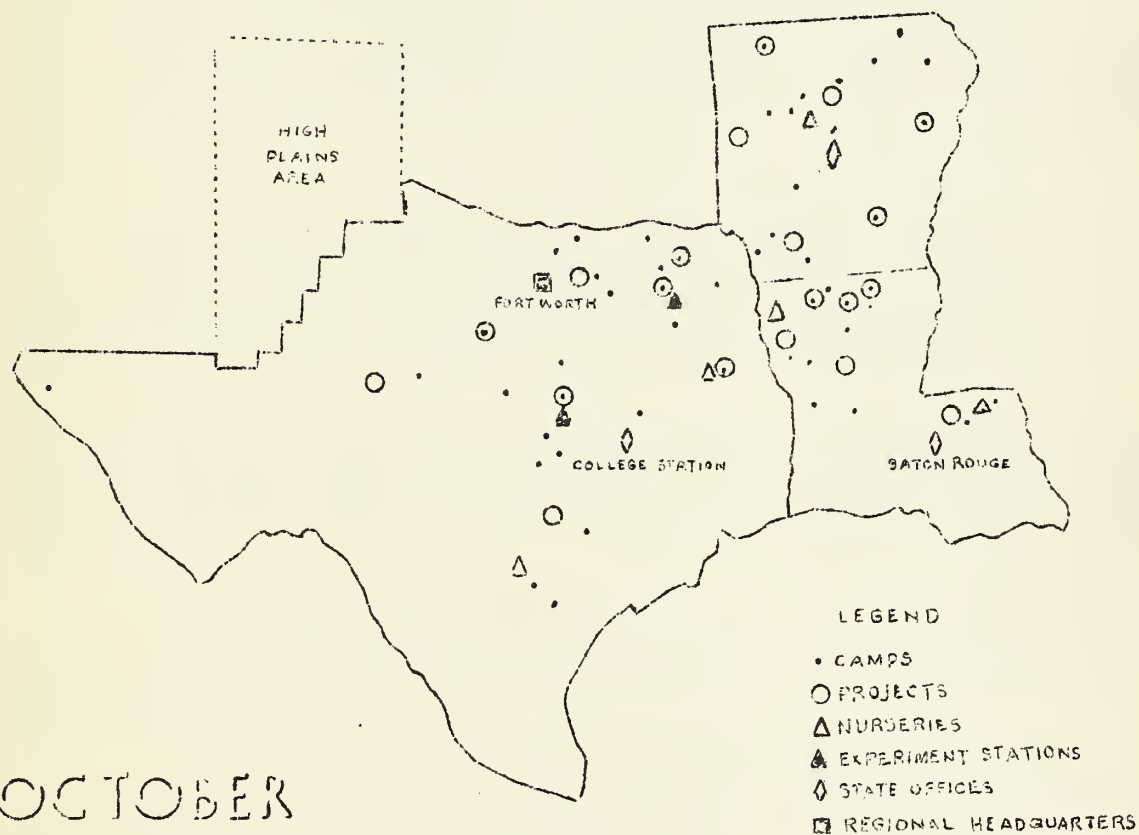


Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

SOIL CONSERVATION SERVICE

NEWS



REGION 4
COMPRISING STATES OF LOUISIANA
ARKANSAS, AND TEXAS, EXCEPT
HIGH PLAINS AREA

MOISTURE PENETRATION OVER SIXTY INCHES OF CONTOUR
RIDGED PASTURES AND TERRACE LAND

The Soil Conservation Service made tests for moisture penetration at various points in the Project area on September 21, 22, and 23. The auger used permitted a test only 60 inches deep. Moisture penetrated the soil deeper than the 60 inches on numerous places.

Contour ridged pastures on slopes of less than two percent showed a moisture penetration greater than 60 inches over the entire pasture. Adjacent pastures with the same slope, grass cover and soil type had moisture penetration from 30 to 38 inches. Ridged pastures on four percent slope showed 52 inches penetration just above the ridge and gradually showed lesser penetration away from the ridge with 34 inches just below the ridge above. Adjacent similar pasture areas without the ridges had penetration of 26 inches.

There was over 60 inches moisture penetration on terraced fields in every community of the Project area. Only on terraces where the water did not stand from one terrace to the next was the penetration less than 60 inches. These areas had the same penetration as contour farmed fields. Recently flat broke level fields showed moisture penetration of over 60 inches. Contour farmed field had penetration from 43 to 58 inches.

Straight row farmed fields where the rows were not on the contour failed to give the depth of penetration and the uniform distribution of moisture. Moisture penetrated the ground from 18 inches on the upper part of the slope to 60 inches on the lower end of the slope where the water left the field.

Cotton and grass roots will get to moisture five feet down according to checks made by the Spur Experiment Station. Samples of Buffalo grass root system on display in the Soil Conservation Service offices verify these findings.

- Upper Concho River Project, San Angelo, Tex.

J. H. Smith, a cooperator, states, "The strip crop of oats saved my purse an expenditure of \$25.00 on mule feed for laying-by my crop this summer." This statement would show that not only will soil and moisture be conserved by this vegetative strip, but that small grain crops can be grown in the winter and spring during the rainy season to supplement the short corn crops caused by the drouths of the past several years.

- Project 5, Farmerville, Louisiana

MOISTURE PENETRATION TESTS MADE IN THE GREEN
CREEK WATERSHED AND THE CAMP AREA AT DUBLIN, TEXAS

During and after the recent rains in the Green Creek Watershed and the Dublin Camp area, tests were conducted to determine whether or not the various erosion control measures had increased the penetration of the moisture any appreciable amount.

Contour tillage, strip cropping and terraces in cultivated fields, and contour ridges in pastures all caused a great amount of water to soak into the ground that would otherwise have gone down the creek loaded with fertile soil.

Borings taken before the rains revealed that the ground was dry enough to crush into powder at depths of four or five feet in many places. Since the ground was dry to such a depth, it was not difficult to determine the exact point to which the rain had penetrated.

On the afternoon of September 16th after 3.5 inches of rain had fallen, borings were taken on the J. W. Glenn pasture, located 3 miles north of Dublin. The contour ridges on this pasture are from 12 to 18 feet apart. A test in the plow furrow, immediately above the contour ridge showed that the 3.5 inch rain had penetrated 30 inches. At that depth dry soil was encountered. A series of borings at intervals of 1 foot above and below the contour ridge revealed that the average depth of penetration was 24 inches for a strip extending 3.5 feet above and 2 feet below the water furrow on all contours. On unridged pastures of the same soil type, slope and ground cover, the average penetration of the 3.5 inch rain was 14 inches. After 6.5 inches of rain had fallen, the penetration on ridged pastures was still a little more than twice that found on unridged pastures.

The extremely dry condition of the ground furnished an opportunity for some unusually accurate studies on contour tillage (rows running across the slope) as compared to up and down hill rows. Six and one-half inches of rain falling on a 3.5% slope with rows running down the slope penetrated 20 inches. On a 3.5% slope with rows across the slope the penetration was 40 inches. On a 5.5% slope with rows running down hill, 6.5 inches of rain penetrated 14 inches, while on a 4% slope on the same type of soil, the penetration was 30 inches, where rows were running across the slope.

Since strip crops increased the penetration to such a great extent that the rainfall moisture met the sub-surface moisture, it is only safe to conclude that penetration on the strip and immediately above it was at least 4 feet, or from 1 to 2 feet more than that obtained from contour tillage alone.

A well sodded Bermuda pasture is the ideal place to dispose of run-off water from terraces in adjacent cultivated fields. The excess water spreads over the grass and soaks into the ground. There is no danger of washing or causing gullies and no special maintenance is necessary.

Even if the present arrangement of farm fields and pastures does not lend itself to this method, it is well worth while to develop new pasture where it will do the most good. Since most farms need more good grazing land, this will fit in with an improved farm plan and allow for more intensive cultivation of crop land.

The best procedure is to start the sod as long as possible before the terraces are built. Discing or some light cultivation will promote rapid growth.

Where the direction of slope of the pasture is the same as the field, it is essential to stagger the terrace ends so that the water will be spread. That is the uppermost terrace should extend about 30 feet further into the field than the next terrace below and similarly with the remaining terraces.

Pasture outlets are simple, effective, and ever-lasting. They will prove well worth the comparatively small amount of labor involved in establishing them.

- Duck Creek Project, Lindale, Texas.

"SPREAD OF PRACTICES INSTITUTED BY THE SOIL CONSERVATION SERVICE
IN THE CYPRESS CREEK WATERSHED AREA AND THE ATTACHED CAMPS'
AREAS OF RUSTON, ARCADIA, AND JONESBORO"

Erosion control methods and practices instituted on the land of co-operating farmers with the Soil Conservation Service in the Cypress Creek Watershed and the attached camps of Ruston, Arcadia, and Jonesboro are being widely adopted as a part of regular farming operations by a large number of farmers throughout this section of the state. This information was gathered in a recent survey made by staff members and technicians in charge of camps on the spread and use of erosion control practices on farms not under cooperative agreement with the Service.

Statistical information on the spread of erosion control practices gathered during this survey, and compiled in the project office at Ruston bring some most interesting facts to light. This spread of practices may

be attributed largely to visits made to project and camp areas by individuals and groups of landowners and farmers where they had an opportunity of seeing the actual field application of the coordinated erosion control program on the land of cooperating farmers.

The recent survey brings out that one or more approved erosion control practices have been adopted on 199 farms representing a total of 19,273 acres of land. Adoption of the different practices was found to be as follows: On 137 farms improved crop rotations have been adopted on 8,423 acres; 996 acres on 28 farms are protected from erosion by definite systems of strip cropping; contour cultivation has been instituted on 117 farms representing an acreage of 3,223 acres.

Terraces are helping to protect 12,013 acres of cultivated land on 175 farms; approved outlets have been constructed for terraces on 1,665 acres of land on 56 farms; 135 acres on 13 farms have been contoured for soil and moisture conservation. Gully control work has been done on 45 farms representing 1,350 acres. A total of 487 acres of land that was eroded or was too steep for safe cultivation have been retired and revegetated for erosion control on 42 farms.

Much credit can be given to vocational agriculture teachers and county agents of Lincoln, Bienville, and Jackson Parishes for this spread of Soil Conservation Service erosion control methods and practices. They have brought hundreds of farmers and landowners to project and camp areas in order to give them an opportunity to study erosion control methods and practices in actual operation under field conditions. Advice and help given to farmers by the teachers and county agents for institution of these practices on their farms have been invaluable in spreading the use of erosion control practices on farms outside of project and camp areas and on farms within the areas but not under cooperative agreement with the Service.

- Cypress Creek Project, Ruston, La.

"On May 19, in cooperation with the Soil Conservation Service I sodded an 11.4 acre field on my farm to Bermuda grass. At the same time Sudan grass was seeded on a gully in this field. The Sudan grass has kept this gully from washing during the rains we have had. Since it has done this much good in a gully where the water has already concentrated, I am convinced that strips of close-growing winter crops across my field will save it from washing this fall and winter, and I have asked them to lay out 30 ft. strips on my field to be planted in rye and vetch. The gullies and depressions in the field are to be seeded the full length to rye and vetch."

- K. Morris, Cooperator
- Crooked Creek Project, Harrison, Ark.

CULTIVATING BLACK LOCUST

A recent check of the growth of black locust seedlings planted for erosion control this year clearly shows the distinct advantage of cultivating on the growth and survival of those trees.

Two plots, which we shall designate as No. 1 and No. 2, were set on the same type of soil--Orangeburg. Plot No. 1 has an average soil depth of five inches and was in cultivation in 1935. Trees were set on March 26. Plot No. 2 has a soil depth of three inches and was not in cultivation in 1935. The trees on this plot were set almost a full month earlier (February 28) than were the trees on plot No. 1.

A check early in the season showed that each field had about the same percentage of living trees. Plot No. 1 was cultivated twice-- in April and in May-- while plot No. 2 received no further attention.

Growth in plot No. 2 apparently stopped during the June drouth. The trees in plot No. 1 continued to grow and when the July rains came, increased in height very rapidly. Plot No. 2 never recovered sufficiently from the early drouth to make any further appreciable growth.

A check of the plots in September showed the following:

Plot No. 1 (cultivated)	Plot No. 2 (not cultivated)
No. trees measured - 50	No. trees measured - 50
Average length of new growth - 5'6"	Average length of new growth - 2'1"
Difference in growth - 3'5"	

In addition to the difference in size, it is estimated that ten percent more trees died during the year on plot No. 2 than on plot No. 1.

All the difference in growth was not due to the effect of cultivation, but we are sure that this was a very important factor in bringing it about. We feel that the difference in growth and percentage of survival of these trees are great enough to warrant the use of the small amount of time required to give the trees this much-needed cultivation the first year after they are planted.

MEADOW OUTLETS

A good demonstration of meadow outlets may be found on the farm of E. G. and W. W. Platt.

There was an excellent growth of lespedeza and native grasses the first year in spite of the small amount of rainfall on the 10 acre meadow strip serving as an outlet for three outlet ditches draining 109 acres.

A part of the acreage used for the meadow was subject to overflow, and in preparing it 1700 feet of outlet ditch was saved.

Mr. E. G. Platt states that he has cut approximately 5 tons of hay by cutting high to control weeds and only cutting the native grasses, leaving the lespedeza, which was seeded in preparation of the meadow to reseed. There's a good growth of lespedeza now, and Mr. Platt says that he could cut at least 5 more tons of hay if he did not want to leave the lespedeza to reseed, thus becoming well established.

- Project La-2, Mansfield, La.

SAVING SEED FOR STRIPS

While discussing strip crops with Cooperators many of them have brought up the subject of the expense of buying seed to plant the necessary strips which are called for in the agreement. After experiencing one season of strip crops we find the farmers have discovered methods of saving their seed for practically every strip crop. This experience, we believe, will be of value and interest to new cooperators.

The greatest problem of all seemed to have been that of saving seed oats. Determined to solve this problem, some of the technical men located and secured a thrasher to be used as a pattern. From this pattern we made one thrasher at the expense of \$10 for material not charging for the labor. We demonstrated the use of this machine at Miss May Huson's farm. There Miss Huson thrashed 18 bushels of oats in $2\frac{1}{2}$ hours of running time. Her expenses were \$1.50 for labor and about four gallons of gas as the machine was pulled by jacking up the rear wheel of a car. These oats at the present market price will be over \$24.00. This is a saving of \$21.50 on her seed oats. Miss Huson believes that every cooperator might economically make a similar machine or several might make one together and use cooperatively in thrashing their oats, thereby eliminating the expense of buying seed oats in the fall.

There is little need to tell experiences in saving seed peas because according to our records practically 100% of the cooperators are saving their pea seed.

- Project La-2, Mansfield, La.

MEADOW OUTLET STRIPS IN TEXAS

In the Bogata Camp area we find on many of the farms gullies of varying sizes and degrees of erosion. In their present state these gullies are waste land and erosion is rapidly increasing their size and therefore decreasing the amount of land from which the farmer can reasonably expect returns from his labor.

Many of these ditches or gullies are found in the logical place to empty terraces on a farm. With small expense the majority of these ditches can be changed from eroding and meandering gullied wasteland covered with obnoxious weeds and brush that obstruct cultivation and serve as a harbor for insects and seed plots for weeds to broad, well sodded waterways. These waterways may be easily maintained and at the same time furnish hay or in the case of pasture strips furnish increased carrying capacity due to the greater amount of moisture and catching of some silt from run of water.

With the equipment the farmer has, he can prepare and establish these meadow strips. In most cases a little bank sloping and sodding will be sufficient for initial preparation. Then by mowing to allow desirable grasses to spread more rapidly a good vegetative covering will soon be established. If the farmer will prepare this meadow strip a year in advance of building his terraces he will have a well protected waterway on which to empty his terraces.

Farmers on farms on which meadow strips have been planned invariably say that they would empty their terraces where the meadow strips have been placed. By this method cooperators are demonstrating to their neighbors at least three very important phases of soil conservation: logical and economical disposition of terrace water, control of active gullies by vegetation and profitable utilization of what has been worse than wasteland.

Mr. A. A. Abernathy of the National Life and Accident Insurance Company says, "Were these terraces emptying into a channel I would have some land that could not be easily utilized, or at least it would be difficult to utilize. But with those three meadow strips I will get some returns from every foot of land. I feel sure that the maintenance will be easier and I believe I will get better results from my terrace system."

- Project No. 9, Mt. Pleasant, Texas.

QUALITY OF LAND A CREDIT INDEX

Credit is sound when based on normal land values determined by earning power. It can well be made contingent on the top six to eight inches of soil being adequately protected from erosion. These represent the farmer's productive capital. Excess credit on poor land tends to prolong the use of that which is submarginal. A sound land policy and a sound credit are good team mates.

- Bodcaw Creek Project, Hope, Arkansas.

PERMANENT MEADOW BUFFER STRIPS

Permanent meadow buffer strips have great possibilities in the erosion control program in the Blacklands of Texas.

By permanent meadow buffer strips we mean the planting of Little Blue-stem meadow grass seed in strips, which are run on the level across the slope, on cultivated fields. The purposes of the strips are to slow down the water as it comes down the slope, causing it to spread, deposit its load of silt in the strip or above it and then flow off very slowly.

The width of the meadow strips and the row crops between the strips will depend upon the slope of the field. There is a possibility that the only erosion control measures needed on some fields are meadow buffer strips, while on other fields the upper and steeper part of the field will have to be terraced and the lower part of the field below the terraces controlled by meadow buffer strips.

The most important advantages of meadow buffer strips are: inexpensive to establish, provide protection during the entire year, require no maintenance, produce a hay crop which can be turned into cash and has the possibility of aiding in insect control.

During the past year permanent meadow buffer strips were seeded on the A. M. Ocker farm, one mile west of Barclay and on the Ben Winckleman farm, one mile south of Wilson School. Although the meadow grass in the buffer strip was rather small when the heavy spring and summer rains came, they did an excellent job of erosion control. It would be well worth anyone's time to go to either one of these farms and observe this type of erosion control. Other meadows which were planted this spring and are doing exceptionally well may be seen on the William Peel farm near Westphalia and F. G. Frorichs farm near Wilson School.

- Elm Creek Project, Temple, Texas

WILDLIFE

It is now well recognized that the once plentiful game of western Arkansas is facing serious depletion and in many cases possible extermination, unless man so mends his ways as to make conditions in the future somewhat resemble those of the past. These conditions can be largely brought about by first: the regulation of hunting, and second: restoration of areas taken from game and unwisely turned into unneeded farm lands.

The Soil Conservation Service is helping the farmers of this area in establishing sanctuaries for wildlife on the individual farms. Some of these retreats are to be removed from cultivation, planted with trees and sown with grass. In other instances the plot selected may have sufficient cover, when protected from grazing. If such sites lack food, the Service will furnish seed, and where deemed advisable huckleberry, blackberry, wild plums, etc. will be planted to furnish food through the winter months.

Whether a bird is beneficial or injurious depends almost entirely upon what it eats, and what the bird eats is governed by the food available. Thus they may sometimes injure the crops of the farmer who has unintentionally destroyed their natural food in his improvement of swamps and other lands that should never have been placed in cultivation. The summer foods of wild farm birds and mammals consists largely of insects, wood fruits and berries and succulent green vegetation. After winter has set in it is common for wild birds and animals to be faced with the serious problems of getting enough to eat. Our cooperative efforts can greatly relieve this situation.

We have been reliably informed by sportsmen and farmers that quail are more abundant this year than in several years. Let's protect these large covies by first: the regulations of hunting on our farms; second: protect from fire all places likely to be used as cover by birds; third: furnish food for the birds during the winter and fourth: destruction of natural enemies of wild birds.

- Project No. 6, Waldron, ^{Ar} Kansas.
r

GALE'S BARN

In a barn situated on an 80 acre field near the Haughton Soil Conservation Camp, there is enough peavine hay and sorghum to feed the 13 head of stock attached to that farm during the coming winter.

Gabe Johnson (colored), a cooperator in the work area of the Camp and the owner of the farm, recently said, "That crop of sorghum and peas that I planted on my new terraces beat all I ever saw for growing." He went on to explain that back in 1905 when he first bought the farm the soil was rich and produced abundant crops. "I've seen a lot of this soil slip out from under me," he explained.

The forage crop of peas and sorghum of which Gabe was so justly proud has served as a "first year" cover crop on new terraces in an 18 acre cotton field. The stubble left from harvesting this crop will hold the soil together until planting time again.

Gabe's explanation of his harvest was interesting. "Off of eight terraces, I got 19 loads; all I could put on a wagon," he said. "As fine a crop as I ever saw in my life," he added. Referring to the new method of plowing around the hill, or "cultivating on the contour," Gabe said, "I realize how much it has helped my land already, just by the change in my rows. I couldn't have made that crop without those terraces and different kind of rows," he stated.

- Project 1, Minden, La.

"During the first few days of September we had a very hard local shower which caused a heavy loss of soil from my corn field. While it caused no gullies to form, I could see a lot of fine soil deposited along the lower side of the field, leading me to believe I had lost a lot of soil by sheet erosion. I immediately asked the Soil Conservation Service to run some strip crop lines so that I could sow rye and vetch seed to stop this washing. The contour strip lines have been run, and I now have the strips seeded and feel that erosion will be checked and I will have some green manure to turn under the spring of 1937."

- D. E. Ingram, Cooperator
- Crooked Creek Project,
Harrison, Ark.

UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION 4
OFFICE OF THE REGIONAL CONSERVATOR
Neil P. Anderson Building
Ft. Worth, Texas

Official Business

PENALTY FOR
PRIVATE USE TO AVOID
PAYMENT OF POSTAGE
\$300.00